Understanding Continuance Usage of Electronic Government Service from the Perspectives of UTAUT in the Context of Unsecured Regions

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Abstract

Electronic governance (EG) refers to the deployment and utilization of digital platforms to execute governmental duties and responsibilities, allowing government and private entities alike to communicate and do business on the internet. The EG procedure has also not been adequately studied within Iraqi academic circles, and only little research attention has been to it in recent times. Determinants which need to be adequately studied include social affectation, performance expectations, factors of ease, input expectations and repeated EG usage. These factors need to be studied intently to gauge the issues which determine continuous EG usage in crisis-ridden ambiences such as Iraq. This work intends to contextualize, boost comprehension and increase knowledge of Iraqi EG services with the aid of the UTAUT (Unified Theory of Acceptance and Use Technology). While 75 questionnaires were parceled out to both academic and non-academic university employees, the gathered data was processed via correlation and multiple regression analysis to single out the determinants which influence continued utilization intent of EG services in Iraq, being a conflict-prone area. The research culminated in the establishment of performance expectancy and effort expectancy as important and contributory factors to continued usage intent, while facilitating conditions and social influence emerged as non-contributory factors. This work adds to the body of available literature of continued usage intent within the Iraqi ambience, and assists makers and executors of policy to build workable platforms to boosts EG usage by Iraqis.

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Keywords: UTAUT, EG service, facilitating conditions, Performance expectancy, social influence, effort expectancy.

1. Introduction

The emergence of Information Communication Technology (ICT) engendered the advent of Electronic Governance (EG) close to the end of the 90s (Alsohybe, 2007; Mubarak Alruwaie 2012). It has since emerged as a crucial digital platform employed by public parastatals to ensure linkages and connections between staff, citizen-users, governmental and corporate entities (AlShihi, 2006). Because EG services have grown in importance because of the digital age, only little literature is available on researching EG history with the UTAUT model. Several works have used the UTAUT model amply, but none of them used it to study Iraqi EG service utilization within government agencies, particular as concerns the ambient security challenges in Iraq.

2. Electronic Government (EG) in Iraq

Iraq is characterized by high levels of conflict issues and several dysfunctions in the areas of healthcare, STEM (science, technology, engineering and mathematics), education and E-governance availability (James A. Wall, 1995; Sanginga et al., 2007; Shajari et al., 2010). However, the Ministry of Science and Technology (MOST) and the Iraq Commission for Computers and Informatics (ICCI) served as the dual core hubs which collaborated to connect government parastatals via Broadband facilities, which was the wireless platform deployed to function as the grid to ensure the seamless connection of EG and Management Information System (MIS) platforms (UN & ESCWA, 2007). While EG remains at old-time deployment levels within the Iraqi ambience, public parastatals still require ample financial inputs to guarantee its deployment, boosts efforts to gear it towards business and ensure its licensing, among other needs, although several other benefits of EG services exist, save its governmental uses. Such benefits

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include improved government services, inter-agency honesty and probity, and increased trust from citizen-users to public agencies. EG services also help to decrease the cost of governance, while making budget making more pragmatic and citizen-focused. It also boosts interactions between public parastatals and within the different intra-agency strata, as well as the external citizenry(UN & ESCWA, 2007). As such, this research studies the factors which predict the prospects, positive or otherwise, of EG in crisis-prone Iraq.

3. Unified Theory of Acceptance and Use of Technology in contact of Iraq

A research undertaken by Venkatesh, Morris, Davis, & Davis (2003) compared and contrasted previous theoretical models of utilizer acceptance to build the UTAUT. This includes comparing and contrasting the technology acceptance model (TAM) (Davis, Bagozzi, & Warshaw, 1989), theory of planned behavior (TPB) (Ajzen, 1991), theory of reasoned action (TRA)(Fishbein & Ajzen, 1975), the combination of TAM and TPB (C-TAM-TPB) (Taylor & Todd, 1995), model of PC utilization (MPCU) (Thompson, Higgins, & Howell, 1991), innovation diffusion theory (IDT) (Rogers, 2003), social cognitive theory (SCT) (Compeau & Higgins, 1995) and motivational model (MM) (Davis, Bagozzi, & Warshaw, 1992). The UTAUT itself employs quadruple constructs to determine utilizer behavior intent and behavior of utilization. These include (a) performance expectancy, (b) effort expectancy, (c) social influence, and (d) facilitating conditions (Venkatesh et al., 2003). This research employs the UTAUT as a model to arrive at the research objectives and crossfire the hypotheses methodically.

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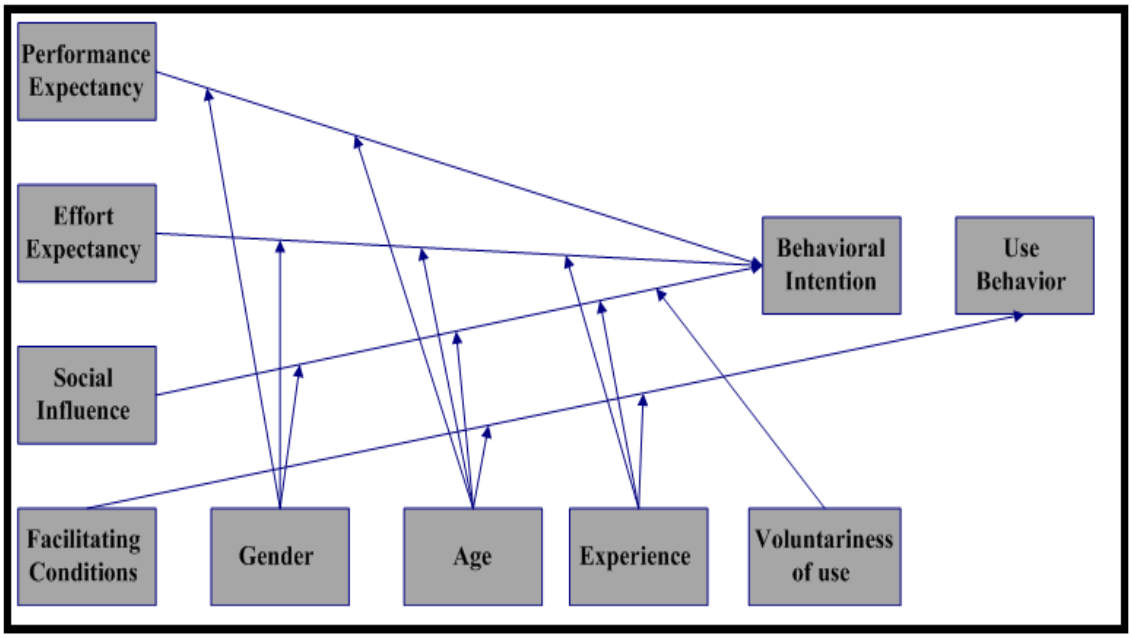

Figure 1: *UTAUT*Source: Venkatesh *et al*. (2003).

Continued Usage Intention of EG Services

So as to ensure a full understanding of continued utilization of EG, precedent research in that area was amply considered, especially in a broad, cross-disciplinary manner. Continued intent of utilization of EG is similar to utilizer intent to repeat a buying or visiting decision. However, intent to exhibit a specific attitude shows the push determinant which engulfs the degree of user intention to exhibit the desired attitude (Teo, Srivastava, & Jiang, 2009). Varying EG platforms and Information Technology (IT) characteristics are required for varying tasks in ensuring repeated utilizer intent (Teo et al., 2009). As such, research-proven effect of repeated utilization after digital uptake affects the critical determinants which decide utilizer behavior after EG uptake (which may be repetition or cessation of EG utilization), which emerge as critical and highly contributory (Hong, Thong, & Tam, 2006).

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Several precedent literature in IT uptake research did not successfully determine the variations in the attitude of utilizers between first-time uptake and repeated utilization (Bhattacherjee, 2001; Hong et al., 2006; Karahanna, Straub & Chervany, 1999). An MIS usually exhibits its utility as dependent on its repeated utilization, as against initial utilization (Bhattacherjee, 2001; Limayemet al., 2003; Wangpipatwongetal., 2008). In the same vein, first-time utilization of EG is a crucial marker of its uptake success. However, first-time utilization success is not always followed by repeated use, except large numbers of citizen-users adopt such EG tools. In the same vein, citizen-utilizers may abandon such EG tools in situations when their desires are not met, even after positive initial uptake (Rogers, 1995; Limayemet al., 2004; Wangpipatwonget al., 2008).

As such, first-time and repeated EG utilization needs to be methodically studied from the digital as well as the socio-economic, governmental and climatic angles (Basu, 2004; Mubarak Alruwaie 2012).

This research x-rayed and cross-fired the determinants which affect repeated EG utilization intent in crisis-ridden environments such as Iraq.

4. Research Methodology

Empirically, several studies which utilized UTAUT constituents were positively tested within the research ambience of digital and innovation utilization. As such, this research focuses on the UTAUT as a model for researching Iraqi EG platforms. This segment x-rays the UTAUT in ample details, especially because the deployed UTAUT in this research is a nouveau type of the UTAUT in the area of digital services and emergent technology (Venkatesh et al., 2003).

As such, Utilization Behavior of EG tools was estimated via four factors taken from Al-Majali, 2011; Raman, Stephenaus, Alam, & Kuppusamy (2008) while PE was estimated with the use of six factors taken from Adulwahab & Dahalin (2011) and Venkatesh (2003). SI estimation was achieved with 5 factors taken from Adulwahab & Dahalin (2011) and Venkatesh et al. (2003). FC estimation was

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achieved with 5 factors taken from AlAwadhi & Morris (2008) while EE estimation was achieved via 5 factors adopted from Adulwahab & Dahalin (2011) and Venkatesh et al. (2003).

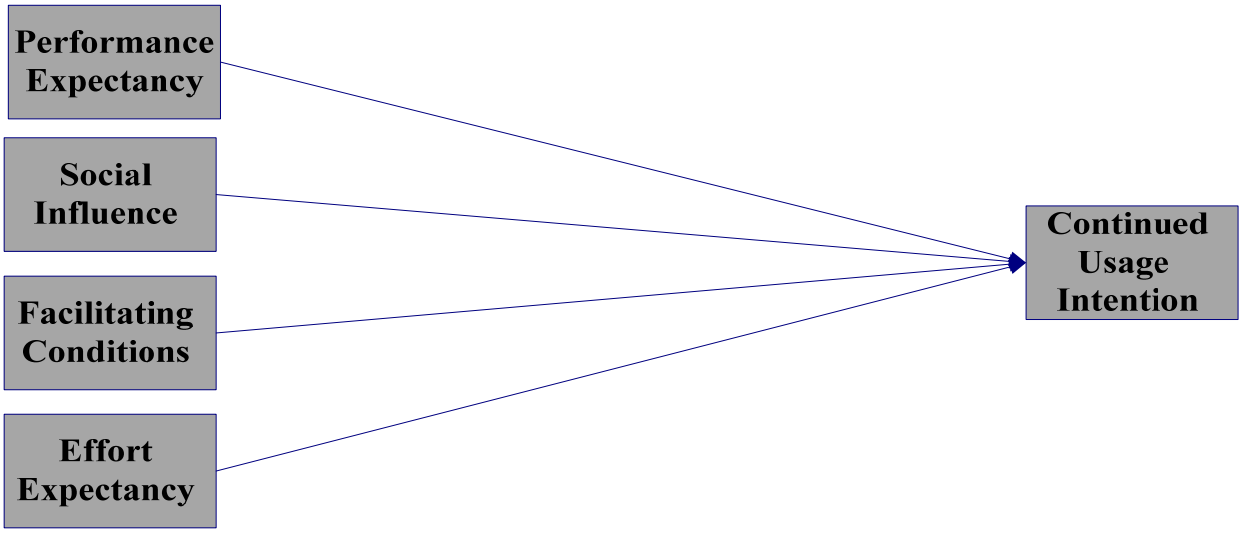

Figure 2: Research Framework of sustainability of EG

Research Hypotheses Development

This index theoretical framework was x-rayed as depicted in Figure 2. The UTAUT 2 recognizes performance expectancy, effort expectancy, social influence, facilitating conditions and habit as the factors which predict utilization behavior in the area of EG platforms in security-challenged ambiences. The hypotheses of this index research are depicted below. However, all hypotheses and factors in this theoretical framework are predicated on the UTAUT 2.

H1. Performance expectancy has a positive effect on sustainable (usage behavior) of EG services.

H2. Social influence has a positive effect on sustainable (usage behavior) of EG services.

H3. Facilitating conditions have a positive influence on sustainable (usage behavior) of EG services.

H4. Effort expectancy has a positive effect on sustainable (usage behavior) of EG services.

Population and Sampling that proposed to Implementation UTAUT:

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This research will harp on Government to Citizen (G2C) functions particularly, which encapsulates all spectra of public functions, ranging from the social to the economic, within the ambience of security-challenged Iraq. As such, Iraqi citizen-users across a range of demographic strata will be polled to execute this research. In addition, 75 questionnaires were spread across three Iraqi regions- northern, southern and middle-in equal proportions.

Data analysis

Data was gathered via systematic random sampling from government university teachers through questionnaires. The items were estimated via 7-point Likert scale which spanned from 1-strongly disagree to 7-strongly agree.

The product of the correlation test is shown in Table 1, which depicts the result gotten for Facilitating conditions (FC) is ($r=0.138$, $p>0.05$), and social influence (SI) is ($r=0.021$, $p>0.05$) depicting no correlation between FC, SI and repeated utilization intent.

Table 1: Pearson Correlations (n=75)

	CUIT	FC	PE	SI	EE
CUIT	1				
FC	.138	1			
PE	.342**	.574**	1		
SI	.021	.432**	.409**	1	
EE	.563**	.323**	.441	.233*	1

** Correlation is significant at the 0.01 level (2-tailed)

While performance expectancy (PE) is ($r=-0.342$, $p<0.05$), and effort expectancy (EE) is ($r=0.563$, $p<0.05$) showing that PE and EE are remarkably correlated with repeated utilization intent.

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Table 2: Summary of multiple regression results

Variable	Standard Coefficient Beta (β)	*P*
Facilitating conditions	.096	.431
performance expectancy	.226	.077
social influence	.154	.161
effort expectancy	.531	.000
R^2	.360	
Adjusted R Square	.323	
Sig. F Change	.000	

5. Discussion

The research results above prove that performance expectancy determines the repeated utilization of EG by Iraqis, and they are particularly interested in its effective deployment.

The findings also prove that a substantial interaction exists between PE and CUI at the 0.01 level of significance (β= 0.226, $p<0.01$). As such, the findings show that H1 is founded. The results also show that singular results in the area of life achievements are amenable to boosting by ensuring individualized EG use in conflict-ridden ambiences. This finding tallies with precedent research. Several precedent research have also proven that PE correlates positively with other variables (Al-Shafi & Weerakkody, 2010; Al-Sobhi, Weerakkody, & Ramzi El-Haddadeh, 2011).

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More so, in consonance with the findings of this research, effort expectancy positively correlates with repeated utilization intent at (β= 0.531**, p < 0.01), thereby supporting the hypothesis. These results also correlate with precedent research findings, showing a substantially positive EE/UB correlation (Wu, Tao, & Yang, 2007). Precedent research however confirms that EE is crucial within the innovation ambiences of nations within and without the Middle East region (Abdul-Rahman, Jamaludin, & Mahmud, 2011; Al-Sobhi et al., 2011; Foon & Fah, 2011; Venkatesh, Sykes, & Zhang, 2011; Yahya, Nadzar, Masrek, & Rahman, 2011).

Studying the social influence hypothesis shows that SI has nil effect on repeated utilization intent (β= 0.154, p>0.1), and as a result, the hypothesis becomes devoid of positive support. This shows that SI is a major factor behind poor EG use generally and specifically in Iraq (Al-Majali, 2011). In consonance with the above, previous Iraqi research have abandoned the study of social influence effects, particularly within the ranks of family and friends, while adequate research in that area is lacking in Iraq.

This research shows that EG users experience nil influence from others over their EG usage. This shows the nil effect of social nuances on digital tools, especially because technology responds to popular demands (Al-Sobhi et al., 2011; Chiu & Wang, 2008).

In addition, this work tallies with SI in previous research, agreeing with findings from Saudi Arabia, where it has nil effect on EG use too (Alshehri, Drew, & AlGhamdi, 2012; Al-Sobhi et al., 2011).

In conclusion, from the data above, facilitating conditions also shows no correlation with CUI (β= 0.096, p>0.1), and as such, the hypothesis lacks support. This finding stands against the works of Adulwahab and Dahalin (2011); Wang and Shih (2009) and Venkatesh et al., (2011)., Also several other precedent research which show FC is a crucial factor in a number of other countries (Venkatesh et al., 2003, 2011). There is also substantial FC absence in the area of infrastructure (Al-Dabbagh, 2011; Portal Iraq, 2011) and other militating factors and obstacles in the Iraqi context. To solve these, the Iraqi government rolled out twenty (20) million dollars in conjunction with Italy to boost EG deployment (Tai, 2008).

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6. Limitations and future research directions

While this research has resulted in important results, it still features notable limitations. First, its sample size is comparably small and it focuses only on Iraqi government university staff. As such, its results cannot be generalized over staff of privately-owned institutions, other students and teachers and workers in other academic, industrial, farming and military sectors. This work also harped on the study of previous Iraqi CUI research, while adding crucial inputs like built environment effects on government university staff in conflict areas. This research only x-rayed a scanty number of EG precedents but looked away from many of them, which include trust, push factors, quality of service and digital platform attributes. In addition, this works focuses on a singular nation and area of endeavor, while states and living standards vary. Results were gathered from university academic and non-academic staff only, across a number of Iraqi states, and this may make generalizing a challenge. As a result of the above, continued research should feature a wider and bigger citizen-user sample and a wider range of work endeavors.

7. Conclusion

This research debuts in trying to achieve a conception of EG CUI in conflict-ridden nations. It results shed ample light towards factors which determine CUI. While PE and EE correlate positively with CUI, FC and SI don't. As such, repeated utilization of EG depends on the degree of effort needed to deploy and maintain such services. With respect to boosting the knowledge base about the UTAUT and its use, the research findings show that PE and EE are the most crucial factors for CUI of EG. As such, this work will help stimulate Iraqi central and provincial agencies towards boosting EG deployment and maintenance by improving its positive factors and pushing citizen-users to deal more with EG platforms.

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